

Claims

1. A method for incorporating a border around a displayed image, comprising the operations of:
 - identifying a main image;
 - selecting a border image to be associated with the main image;
 - mapping the border image to a table such that each pixel of the border image is represented by a corresponding single bit in the table, the mapping including,
 - defining a first single bit value for respective border image pixels; and
 - defining a second single bit value for respective main image pixels;
 - applying the table to a display of the main image in order to incorporate the border image with the main image.
2. The method of claim 1, wherein the method operation of mapping the border image to a table such that each pixel of the border image is represented by a corresponding single bit in the table includes,
 - compressing data defining the table, the compressing including,
 - identifying a compressed value to represent whether the corresponding single bit is one of the first single bit value and the second single bit value and how many identical single bits follow the corresponding single bit in the table.
3. The method of claim 2, further comprising:
 - defining the compressed value as a byte, wherein a most significant bit of the byte is associated with the one of the first bit value and the second bit value, the remaining bits of the byte corresponding to successively repeated bits of the one of the first bit value and the second bit value.

4. The method of claim 2, further comprising:

determining if an amount of identical single bits following the corresponding single bit in the table is greater than a maximum amount capable of being represented by a seven bit value;

if the amount of identical single bits is greater than the maximum amount, then the method includes,

combining multiple bytes to represent the compressed value, wherein each of the multiple bytes have a common most significant bit.

5. The method of claim 4, further comprising:

representing the amount of identical single bits as a combination of the multiple bytes in which the common most significant bit is removed.

6. The method of claim 1, wherein the method operation of mapping the border image to a table such that each pixel of the border image is represented by a corresponding single bit in the table includes,

defining a compressed data structure to represent a block of successively repeated single bits in the table;

storing the compressed data structure; and

generating the table through decompression of the compressed data structure.

7. The method of claim 6, wherein the compressed data structure is a byte of data having a most significant bit representative of one of the first single bit value and the

second single bit value and remaining bits of the byte of data indicating an amount associated with the successively repeated bits.

8. A method for customizing a border around a displayed image, comprising the operations of:

identifying a main image;

selecting a border image to be associated with the main image;

defining a table representing a template for the border image and the main image such that each pixel of the border image is represented by a corresponding first single bit in the table and the main image is represented by a corresponding second single bit in the table.

9. The method of claim 8, further comprising:

applying the table to a display of the main image in order to incorporate the border image with the main image.

10. The method of claim 8, wherein the method operation of selecting a border image to be associated with the main image includes,

determining a compressed template layout wherein multiple table entries are combined into a byte of data having a most significant bit associated with one of the first single bit and the second single bit.

11. The method of claim 10, further comprising:

identifying successively repeated single bits associated with the most significant bit through remaining bits of the byte of data.

12. The method of claim 10, further comprising:

storing the compressed template layout;

requesting the main image be combined with the border image; and

decompressing the compressed template layout in response to the request

13. The method of claim 9, wherein the method operation of applying the table to a display of the main image in order to incorporate the border image with the main image includes,

selecting one of a main image pixel value and a border image pixel value based on a value of the template.

14. A graphics processing unit (GPU), comprising:

border generation logic configured to apply a border to an image, the border generation logic including,

logic for generating a table mapping border data with image data such that both the border data and the image data are represented by corresponding single bit values in the table;

logic for compressing the border data and the image data such that multiple successive single bit values in the table are compressed to a value representing whether one of the corresponding single bit values is one of a first single bit value and a second single bit value and a number of identical single bit values following the one of the corresponding single bits in the table; and

logic for storing the compressed data in a buffer associated with the GPU.

15. The GPU of claim 14, further comprising:
logic for accessing the compressed data in the buffer; and
logic for decompressing the compressed data in order to present the image having the border.

16. The GPU of claim 15, wherein the logic for decompressing the compressed data in order to present the image having the border includes,
logic for identifying a most significant bit of the decompressed data as being associated with one of the first single bit value and the second single bit value; and
logic for determining a number of repeated bits following the most significant bit.

17. The GPU of claim 15, wherein the logic for decompressing the compressed data is a 14 bit counter.

18. The GPU of claim 16, wherein the logic for determining a number of repeated bits is configured to provide a select signal to a multiplexer based upon the most significant bit.

19. The GPU of claim 14, wherein the value is an eight bit value, the eight bit value having a most significant bit corresponding to one of the first single bit value and the second single bit value, the first single bit value associated with the border, the second single bit value associated with the image.

20. The GPU of claim 19, further comprising:

logic configured to identify when the number of identical single bit values following the one of the corresponding single bit values in the table is greater than can be represented by a seven bit binary value; and

logic configured to generate another eight bit value having the most significant bit, wherein remaining seven bits of the another eight bit value are associated with the seven bit binary value to define a fourteen bit binary value capable of capturing the number of identical single bit values.

21. A device, comprising:

a graphics processing unit (GPU) configured to provide image data having a border to a display panel for presentation, the GPU including,

logic for generating a table mapping border data with the image data, the table being defined by single bit values; and

logic for compressing the single bit values of the table such that repeated successive single bits in the table are compressed to an eight bit value having a most significant bit determining whether the repeated successive single bits are associated with one of the border data and the image data, wherein remaining seven bits of the eight bit value represent a quantity of the repeated single bits.

22. The device of claim 21, further comprising:

a central processing unit (CPU);

a main memory;

a display panel in communication with the GPU; and

a bus in communication with the CPU, memory, and the GPU.

23. The device of claim 21, wherein the GPU includes a memory region having a display buffer, the display buffer configured to store the compressed single bit values.
24. The device of claim 21, wherein the device is selected from the group consisting of a cellular phone, a pocket personal computer, a web tablet, and a personal digital assistant (PDA).
25. The device of claim 21, wherein the logic for generating a table includes, logic for receiving the table from a distributed network in which the device is in communication with.
26. The device of claim 25, wherein the device is in communication with the distributed network over one of a wired connection and a wireless connection.